

Notes 6/1 - Dimensional Analysis

■ It's all about cancelling units!

Skeletal Given ^{units} ~~units~~

Ex: How many seconds in 3 hours?
hrs → minutes → seconds

$$\begin{array}{c|c|c|c} 3 \text{ hours} & 60 \text{ min} & 60 \text{ sec} & \\ \hline 1 & 1 & 1 & \end{array} = \frac{10,800}{1} = \boxed{10,800 \text{ sec}}$$

Ex 2: How many cm in 0.5 miles
miles → feet → inches → cm

$$\begin{array}{c|c|c|c|c} 0.5 \text{ miles} & 5,280 \text{ ft} & 12 \text{ in} & 2.54 \text{ cm} & \\ \hline 1 & 1 & 1 & 1 & \end{array} = 80,467.2 \text{ cm}$$

$80,467.2 \text{ cm}$